

Customer No.: 31561  
Application No.: 10/711,378  
Docket No.: 13816-US-PA

### REMARKS

#### Present Status of the Application

The Office Action rejected claims 1-4 and 9 under 35 U.S.C. 103(a), as being unpatentable over Trojan et al. (US 5,899,798) in view of Boyd (US 6,592,437). The Office Action also rejected claims 5-8 under 35 U.S.C. 103(a) as being unpatentable over Trojan in view of Boyd and further in view of Luse et al. (US 6,486,660).

Applicants have amended claims 1 with the addition of the limitations of claims 2-3 to more clearly define the present invention and canceled claims 10-17. After entry of the foregoing amendments, claims 1, 4-9 remain pending in the present application, and reconsideration of those claims is respectfully requested.

#### Rejection under 35 U.S.C 103 (a)

*Applicants respectfully traverse the rejection of claims 1, 4 and 9 under 103(a) as being unpatentable over Trojan et al. (US 5,899,798) in view of Boyd (US 6,592,437) because a prima facie case of obviousness has not been established by the Office Action.*

To establish a prima facie case of obviousness under 35 U.S.C. 103(a), each of three requirements must be met. First, the reference or references, taken alone or combined, must teach or suggest each and every element in the claims. Second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skilled in the art, to combine the references in a manner resulting in the claimed invention. Third, a reasonable expectation of success must exist. Moreover, each of the three requirements must "be found in the prior art, and not be based

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on applicant's disclosure." See M.P.E.P. 2143, 8<sup>th</sup> ed., February 2003.

The present invention is in general related a mechanism for compressing chips as claim 1 recites:

Claim 1. A mechanism for compressing chips, comprising:  
a loading component;  
a head component disposed under the loading component, wherein the head component has a heating plate therein, and a gap is existed between the loading component and the head component, and wherein *the head component has a groove and the bottom of the loading component is partially inset into the groove*, the head component comprising:  
*a first gasket having a contact part with the gimbal;*  
*a ring piece fixed on the first gasket, wherein the ring piece has a hollow portion such that the groove is existed between the ring piece and the first gasket;* and  
a gimbal disposed between the loading component and the head component to support the gap therebetween.

The office action stated Trojan has described the head component has a groove and the bottom of the loading component is partially inset into the groove and the head component comprises a first gasket having a contact part with the gimbal, and a ring piece fixed on the first gasket, wherein the ring piece has a hollow portion such that the groove is existed between the ring piece and the first gasket (Fig. 7, Trojan Fig. 5 # 550 similar to applicant's figure 2 #232, see also Trojan col.8, lines 56-65, col.10, lines 16-24).

However, applicant respectfully disagrees: Applicant respectfully submits Trojan Fig. 5 # 550 is not similar to applicant's figure 2 #232. Please see Fig. 5 and Fig. 7 of the Trojan reference, the space 550 is positioned between the contact pin 401 and the substrate 600, and therefore the space 550 does not belong to the contact pin 401. Trojan fails to teach the head

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component has a groove as claim 1 recites. In addition, the bottom of the load cell is not partially inset into the space 550, and therefore Trojan fails to teach the bottom of the loading component is partially inset into the groove as claim 1 recites.

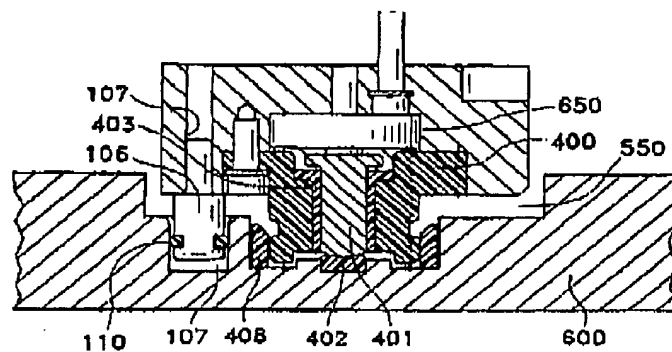


FIG. 5

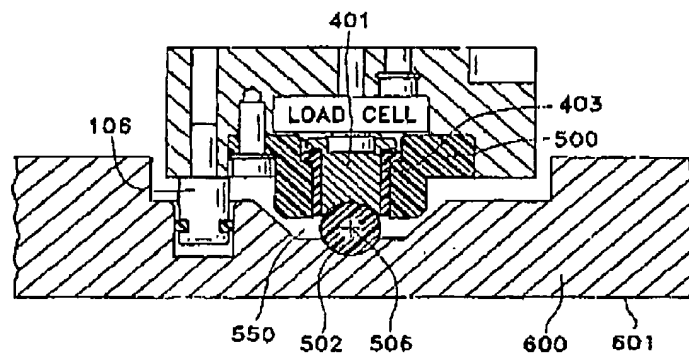


FIG. 7

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In addition, Trojan disclosed, at col. 8, lines 56-65, "a diaphragm 150 is seated atop bearing housing 105 and forms a seal therewith. Bearing housing 105 is further mounted to a vertical force applicator (not shown), which is preferably an air cylinder or hydraulic cylinder, which can be computer controlled for precise feedback control of the applied force. Piston column 120 is slidably mounted within bearing housing 105 via linear bearing 108. Pressure plate 112 is mounted to chuck 104 via screws preferably or bolts (not shown), and transfers downward vertical forces from the piston column 120 to the substrate carrier 100 via load cell 650 and contact pin 401". Moreover, Trojan disclosed, at col. 10, lines 16-24, "the pivot point of gimbal system 500 is defined by the point where horizontal and vertical forces intersect, i.e., the point defined by reference numeral 506 (the center of gimbal ball 502). Thus, the height or distance H affecting the moments formed in this system, although greater than the radius of the gimbal ball 502, is nevertheless significantly less than the thickness of the entire substrate plate 600, owing to the hollow design of the substrate plate 600 used in such a system." Applicant respectfully submits Trojan fails to teach the limitations of "the head component comprises a first gasket having a contact part with the gimbal, and a ring piece fixed on the first gasket, wherein the ring piece has a hollow portion such that the groove is existed between the ring piece and the first gasket" at col. 8, lines 56-65 and col. 10, lines 16-24.

Additionally, Boyd also fails to teach or suggest "the head component has a groove and the bottom of the loading component is partially inset into the groove" and "the head component comprises a first gasket having a contact part with the gimbal, and a ring piece fixed on the first

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gasket, wherein the ring piece has a hollow portion such that the groove is existed between the ring piece and the first gasket” as claim 1 recites. Therefore, Boyd cannot cure the deficiencies of Trojan.

For at least the foregoing reasons, Applicant respectfully submits that independent claim 1 patently defines over the prior art references, and should be allowed. For at least the same reasons, dependent claims 4 and 9 patently define over the prior art as a matter of law, for at least the reason that these dependent claims contain all features of their respective independent claim.

*Applicants respectfully traverse the rejection of claims 5-8 under 103(a) as being unpatentable over Trojan et al. (US 5,899,798) in view of Boyd (US 6,592,437) and further in view of Luse (U.S. 6,486,660) because a prima facie case of obviousness has not been established by the Office Action.*

Applicant submits that, as disclosed above, Trojan and Boyd fails to teach or suggest each and every element of claim 1, from which claims 5-8 depend. Luse also fails to teach “the head component has a groove and the bottom of the loading component is partially inset into the groove” and “the head component comprises a first gasket having a contact part with the gimbal, and a ring piece fixed on the first gasket, wherein the ring piece has a hollow portion such that the groove is existed between the ring piece and the first gasket”. Luse cannot cure this deficiency of Trojan and Boyd. For at least the foregoing reasons, Applicant respectfully submits that independent claim 1 patently defines over the prior art references, and should be allowed.

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For at least the same reasons, dependent claims 5-8 patently define over the prior art as a matter of law.

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**CONCLUSION**

For at least the foregoing reasons, it is believed that the pending claims are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

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Respectfully submitted,

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